UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/842,312	04/25/2001	Andrew C. Sturges	S01022/80655 (JHM/EJR)	6679

7590 01/13/2005	EXAMINER
James H. Morris	ELLIS, RICHARD L

ART UNIT	PAPER NUMBER
2183	

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DATE MAILED: 01/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

<table>
<tr>
<td rowspan="2">**Office Action Summary**</td>
<td colspan="2">Applicati n N .</td>
<td colspan="2">Applicant(s)</td>
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<tr>
<td colspan="2">09/842,312</td>
<td colspan="2">STURGES ET AL.</td>
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<td rowspan="2"></td>
<td colspan="2">Examin r</td>
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<td colspan="2">Richard Ellis</td>
<td>2183</td>
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-- The MAILING DATE of this c mmunication appears on the c ver sheet with the correspondenc address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>22 November 2004</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disp sition of Claims

4)☒ Claim(s) <u>38-48 and 50-61</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>38-48 and 50-61</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

1.   Claims 38-48, and 50-61 remain for examination.

2.   The text of those sections of Title 35, US Code not included in this action can be found in a prior Office Action.

3.   Claims 38-48 and 50-61 are rejected under 35 USC § 103 as being unpatentable over Cocke et al., U.S. patent 3,577,189, in view of Bruckert et al., U.S. Patent 4,742,451. Page 22 of the book *Computer Organization*, by V. Carl Hamacher et al., published 1984, is further cited as extrinsic evidence showing the accepted definition of "execution" within the computer arts.

        Cocke et al. and Bruckert et al. were cited as a prior art reference in paper number 20040825, mailed August 30, 2004.

4.   The rejections are respectfully maintained and incorporated by reference as set forth in the last office action, paper number 20040825, mailed August 30, 2004.

5.   Applicant's arguments filed December 20, 2004, paper number 20041220, have been fully considered but they are not deemed to be persuasive.

6.   In the remarks, applicant argues in substance:

6.1.   That: "Bruckert does not teach or suggest an instruction fetcher operative, *responsive to execution of a set branch instruction*, to fetch a new instruction from a location indicated by the set branch instruction. Rather, Bruckert describes prefetching instruction words from a "branch taken" instruction stream *in response to decoding a conditional branch instruction*. (emphasis unchanged)

This is not found persuasive because as seen from the accepted definition of "execution" as presented by Hamacher et al. Bruckert et al. performs prefetching responsive to "execution" of an instruction. As seen from Hamacher et al.:

> "Execution of a given instruction consists of a two-phase procedure. In the first phase, called *instruction fetch*, the instruction is fetched from the main memory location whose address is in the PC. This instruction is placed in the instruction register (IR) in the CPU. At the start of the second phase, called *instruction execute*, the operation field of the instruction in the IR is examined to determine which operation is to be performed. The specified operation is then performed by the CPU. ... Therefore, when the execute phase of an instruction is completed, the PC contains the address of the next instruction, and a new instruction fetch phase can begin." (emphasis unchanged)

As seen from Hamacher et al., the term "execution" in relation to instructions is defined to include all phases of processing, i.e., to both "instruction fetch" as well as "instruction

execute". Accordingly, because "execution" of an instruction is defined to mean "all phases of processing" Bruckert clearly suggests "an instruction fetcher operative, *responsive to execution of a set branch instruction*, to fetch a new instruction from a location ..." Since "execution" includes all phases, whether Bruckert performs the responsiveness at the time of decode is immaterial to the claim language, since the claim language states "execution" which has the meaning of "all phases".

6.2.   That: "Cocke does not teach or suggest an instruction fetcher operative, responsive to execution of a branch instruction *and irrespective of whether a branch condition is satisfied*, to fetch a new instruction from a location indicated by a set branch instruction."

This is not found persuasive because applicant is correct, the reference to Cocke et al. does not teach this feature. Had Cocke et al. taught this feature, Cocke et al. alone would have anticipated applicant's claims under 35 USC § 102(b). This feature is present and provided by the Bruckert et al. reference. By applicant's own admission, Bruckert et al. activates the second fetch unit during the decode phase of instruction execution, and because at the decode stage it is not known yet whether the branch condition is satisified, Bruckert et al. teaches "an instruction fetcher operative to fetch a new instruction from a location indicated by a set branch instruction, responsive to execution of a branch irrespective of whether the branch condition is satisfied.

7.   Applicant's arguments regarding claims 52-57 and 59 are exact parallels of applicant's arguments for claim 38 and as such are not convincing for the same reasons presented above.

8.   Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Richard Ellis whose telephone number is (571) 272-4165. The Examiner can normally be reached on Monday through Thursday from 7am to 5pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Eddie Chan, can be reached on (571) 272-4162. The fax phone number for the USPTO is: (703)872-9306.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (571) 272-2100.

RICHARD L. ELLIS
PRIMARY EXAMINER

Richard Ellis
January 11, 2005